

ABSTRACT

Methods and systems for reliable arc detecting in systems having power signals that experience decay or increase in amplitude. One embodiment of a system for
5 detecting electrical arcs by monitoring an alternating current power supply comprises a sampling circuit which samples electrical signals. It further comprises a delay circuit which receives the sampling circuit output and stores a time history of the output over an interval
10 including a past, present and future versions of the history. Causal/non-causal logic compares the present version with the past and future versions to determine which will be used as an arc monitoring version to compare the present version to for arc monitoring. A
15 dynamic processing module compensates for any amplitude differences between the present version and the arc monitoring version. An arc monitoring circuit analyzes the present version and adjusted arc monitoring version to determine if an arc signal is present.